NIOSH Fire Fighter Cancer Study

Issue 1 Fall 2011

Notes from the Study Director

Hello from the National Institute for Occupational Safety and Health, commonly known as NIOSH. We are part of the Centers for Disease Control and Prevention (CDC) and we work to make your job safer.

With funding assistance from the U.S. Fire Administration and in partnership with the National Cancer Institute, we embarked on a new study of fire fighters. Our goal is to better understand whether fire fighters have a higher risk of cancer and other illnesses due to job exposure. Because this is a long-term study with complicated analyses, we plan to keep you apprised of our progress through this annual newsletter.

To date, this is one of the largest studies of United States fire fighters ever conducted. It includes more than 30,000 fire fighters who worked between 1950 and 2010 in the following Fire Departments: San Francisco, Philadelphia, and Chicago.

The cooperation of the Fire Departments in these three cities has been exceptional. Department staff, city officials, and union leaders have gone out of their way to welcome us and help us get underway with the project.

Since our study began in October 2010, we've made great progress. We have almost completed the task of identifying all fire fighters who worked during 1950 to 2010. We have also collected their individual work histories (i.e., each position held and the length of time in that position). We are in the process of gathering exposure information, including the fire runs made and the dates personal protective equipment and diesel exhaust controls were put into practice. By checking the study timeline on page 3, you can see where we are headed next.

Please do not hesitate to contact me with questions about the study. You can reach me at tkubale@cdc.gov or 513-841-4461.

To find out more about what NIOSH does to promote safety for fire fighters, visit www.cdc.gov/niosh/fire.

Thank you for your interest and your help,

Travis Kubale

Travis Kubale, PhD

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NIOSH Launches New Fire Fighter Cancer Study

Fire fighters risk their lives every day by entering burning buildings, putting out fires, and helping others. Besides the obvious hazards of the fire itself, fire fighters may be exposed to smoke, soot, and other contaminants that may be hazardous to their health. Our study will examine if certain cancers and other illnesses occur more frequently among fire fighters compared to people who are not exposed to these job hazards. To accomplish this, we will look at causes of death among fire fighters compared to what's seen in the general population. To examine cancer among fire fighters more thoroughly, we will also gather information on current and past cancer cases in addition to cancer deaths.

Here's more about our study and why it's different from other studies done before:

1. Our study is among the largest to date and includes a diverse group of fire fighters.
We have more than 30,000 current and retired career fire fighters included in our study. These men and women work or worked for the San Francisco, Philadelphia, and Chicago Fire Departments during 1950 – 2010. We are able to include more female and non-white large-city fire fighters than past studies.

This is one of the largest studies of fire fighters ever done in the United States. Having a large group of people in a study is important because the larger the study, the more reliable the results.

2. We are looking at cancer diagnosis in addition to deaths from cancer and other causes.
It's fairly common for scientists to examine health risks based only on causes of death. Although this is done for many reasons, it doesn't give us the whole picture because certain cancers have high survival rates. In addition to causes of death, we will look at current and past cases of certain cancers (those who have cancer now and those who had cancer and recovered).

3. We will also be looking at exposures in greater detail.
We will be examining exposures by looking at:

- The number and type of fire runs (for example, EMS, structural or vehicle fires)
- Use of personal protective equipment
- Use of diesel exhaust controls

The findings from our study will be important because the results will help determine whether fire fighting increases the chance for getting certain cancers and illnesses. To learn more about the study or to find copies of this and future newsletters, visit: www.cdc.gov/niosh/fire/cancerstudy.html. We would also like to hear from you. If you have any questions or comments, please send an email to tkubale@cdc.gov.

Timeline for the Study

2010

- NIOSH and the United States Fire Administration (USFA) announce the initiation of a study of United States fire fighters.
- Partnership established with the National Cancer Institute.
- ≈ 30,000 fire fighters from Chicago, Philadelphia, and San Francisco are identified for study, beyond original goal of 18,000.
- Work begins to collect data on fire fighters employed between 1950 and 2010.

2011

- Study roster completed for San Francisco and Chicago Fire Departments; initiated for Philadelphia Fire Department.
- Collection of exposure information (e.g., number of fire runs by each fire company) initiated in San Francisco, Chicago, and Philadelphia.
- Work history data collection completed for all departments.

2012

- Health outcomes identified among fire fighters included in the study.

2013

- Study analyses completed.
- Health risk among fire fighters determined.

2014

- Results communicated to fire fighters, stakeholders, and the public.

NIOSH Study Team: front row, l-r: Matt Dahm, Carol Lloyd, Chris Gersic, Kathy Waters, Amy Mobley
back row, l-r: James Yiin, Doug Daniels, Lynne Pinkerton, Tom Hales, Steve Allee, Travis Kubale

What's Involved in Data Collection?

The first stage in data collection will create a database. The database will include work histories on all eligible fire fighters (nearly 30,000 of them).

Each fire department has its unique ways of keeping records. NIOSH team members work with fire department staff (personnel, payroll, and information technology), retirement board, and fire museum staff to locate the information needed for the study. Some departments archive records off-site, which we retrieve and review.

Once we locate and collect the records, we spend many hours poring over ledgers, annual reports, and microfiche. We scan the needed information into a computer database and check it for accuracy and completeness. This time-intensive process is critical for the study's integrity. To date, NIOSH data coders have made approximately 790,000 separate data entries for the San Francisco, Chicago, and Philadelphia Departments.

Coders also go back to identify missing information and verify the information that exists. This painstaking checking and re-checking takes time, but it's vital to the project's success.

After the data are collected, entered into the database, and checked for accuracy and completeness, we can start assessing the connections between a variety of health outcomes and fire fighting.

NIOSH Coders: Front row, left - right: Surprese Watts, Adrienne Bullard, Chris Gersic, Delores Montgomery, Debbie Fite, Kim Jenkins
Back Row: Ken Sparks, Jean Geiman, Bill Ehling, Faith Armstrong, Denise Giglio

Please look for the next issue of the newsletter, Fall 2012.
In the meantime, if you have questions about the project, contact Travis Kubale PhD, study director, at tkubale@cdc.gov.
To find out more about NIOSH efforts to promote safety for fire fighters, visit www.cdc.gov/niosh/fire.

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